

1/2 013 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SEDIMENTATION CHARACTERISTICS OF VENEZUELAN EQUINE
ENCEPHALOMYELITIS VIRUS -U-
AUTHOR--(05)--URYVAYEV, L.V., ZHDANOV, V.M., YERSHOV, F.I., CHERNETSOV,
YU.V., BYKOVSKIY, A.F.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 3, PP 330-336
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--VENEZUELAN EQUINE ENCEPHALITIS VIRUS, TISSUE CULTURE,
SEDIMENTATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1836 STEP NC--UR/0402/70/000/003/0330/0336
CIRC ACCESSION NC--AP0125447
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125447

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE VEE VIRUS WAS PROPAGATED IN CHICK EMBRYO CELLS, CONCENTRATED AND PURIFIED. THE OPTIMAL METHOD FOR OBTAINING BIOLOGICALLY ACTIVE VIRUS COMPONENTS CONSISTED IN DEGRADATION OF THE VIRUS WITH ETHER TWEEN. THE PURIFIED VEE VIRUS SEDIMENTED AT ABOUT 380 S IN SUCROSE GRADIENTS, THE NUCLEOID AT ABOUT 160 S. CENTRIFUGATION IN CSCL GRADIENTS SHOWED THE VEE INFECTIOUS MATERIAL TO BAND IN TWO MAIN POSITION: MOST OF THE VIRUS Banded AT 1.25 G-ML, AND A SMALLER AMOUNT AT 1.42 G-ML. THE MAIN PEAK OF HEMAGGLUTININS WAS DETECTED AT A BUOYANT DENSITY OF 1.25 G-ML. THE SITE OF VIRUS AND ITS COMPONENTS WAS DETERMINED BY RADIOLOGICAL AND BIOLOGICAL TESTS. FACILITY: INSTITUT VIRUSOLOGII IMENI D. I. IVANKOGO AMN SSR, MOSKVA.

UNCLASSIFIED

USSR

UDC: 576.858

YERSHOV, F.I., URYVAYEV, L.V., and ZHDANOV, V.M., Academician, Academy of Medical Sciences USSR Institute of Virology imeni D.I. Ivanovskiy, Academy of Medical Sciences USSR

"Synthesis of Arbovirus RNA and Proteins in Subcellular Structures"

Moscow, Doklady Akademii Nauk, Vol 190, No 2, 1970, pp 458-460

Abstract: A fraction containing the subcellular structures (SS-15) was extracted from chick fibroblasts infected with Venezuelan equine encephalomyelitis virus and from intact cells. The fraction was diluted (1:10) with medium 199, and incubated for 1-2 hours at 37°C, after which H³-uridine and a C¹⁴-amino acid mixture were added. After rapid chilling, the SS-15 fraction and accompanying products were centrifuged (1500 g) and analyzed in a sucrose density gradient. Supernatants of the infected cells contained a product with a sedimentation constant of 40S, and lighter, slower settling products in the form of RNA and polypeptides, whereas supernatants of the noninfected cells contained only the lighter products. After gradient centrifugation of the SS-15 fractions isolated from infected and noninfected cells, nucleic acid and protein tags were found in the form of two peaks one of which was linked to the structures, while the other appeared in the lighter part of the gradient. It was concluded that subcellular structures consisting of cytoplasmatic membranes with ribosomes and mitochondria are a convenient model for studying virus-induced synthesis.

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1/2 011 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--FORMATION OF THE VIRUS SPECIFIC POLYSOMES AT AN EARLY STAGE OF
PARAMYXOVIRUS INFECTION -U-
AUTHOR-(02)-BUKRINSKAYA, A.G., ZHDANOV, V.M.
COUNTRY OF INFO--USSR
SOURCE--MOLEKULYARNAYA BIOLOGIYA, 1970, VOL 4, NR 3 PP 313-323
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MYXOVIRUS, RIBOSOME, PROTEIN, RNA
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1999/0397 STEP NO--UR/0463/70/004/003/0313/0323
CIRC ACCESSION NO--AP0122577
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122577

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVOLVEMENT OF A VIRAL RIBONUCLEOPROTEIN IN VIRUS SPECIFIC FORMATION WAS STUDIED IN EHRlich ASCITES CELLS INFECTED BY SENDAI VIRUS. VIRUS BEING BEFOREHAND LABELLED WITH NA SUB2 H PRIME32 PO SUB4 AND PRIME3 H LEUCINE, CENTRIFUGATION OF THE CELL EXTRACTS IN SUCROSE DENSITY GRADIENT REVEALED THE PRESENCE OF THE VIRUS RIBONUCLEOPROTEIN IN CYTOPLASM DURING AT LEAST 6 HOURS AFTER INFECTION. IN THE COURSE OF INFECTION DEPROTEINIZATION OF THE RNP TAKES PLACE. A PART OF THE VIRUS RNP IS FOUND TO BE BOUND TO PROTEIN SYNTHESIZING RIBOSOMES IN AN HOUR AFTER INFECTION OR LATER. THE COMPLEXES RNP, RIBOSOMES WERE SENSITIVE TO RIBONUCLEASE AND EDTA TREATMENT AND SEDIMENTED FASTER AFTER IMMUNE ANTIVIRAL SERUM TREATMENT. BEING CENTRIFUGATED IN A PREFORMED CXCL DENSITY GRADIENT, THE COMPLEXES WERE SHOWN TO HAVE BUOYANT DENSITY 1.45 AND 1.41 G-CM PRIME3. NEWLY SYNTHESIZED VIRUS SPECIFIC RNA IS FOUND ALSO IN THE POLYSSOME ZONE IN 3 HOURS AFTER INFECTION, ITS DISTRIBUTION IN SUCROSE DENSITY GRADIENT COINCIDING WITH THE DISTRIBUTION OF THE PARENT VIRUS RADIOACTIVITY. ON THE LATER STAGES OF INFECTION THE COINCIDENCE MENTIONED ABOVE DOES DISAPPEAR. FACILITY: INSTITUTE OF VIROLOGY, ACADEMY OF MEDICAL SCIENCES, USSR, MOSCOW.

UNCLASSIFIED

UDC 576.858

USSR

BUKRINSKAYA, A. G. and ZHDANOV, V. M., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR

"Formation of Virus-Specific Polysomes in the Early State of Infection with Paramyxovirus"

Moscow. Molekulyarnaya Biologiya, No 3, 1970, pp 313-323

Abstract: The participation of viral ribonucleoprotein in the formation of virus-specific polysomes in Ehrlich's ascites tumor cells infected with Sendai virus was studied. Following infection of the cells with $\text{Na}_2\text{H}_2^{32}\text{PO}_4$ - and H^3 -leucine-labeled virus, centrifugation of the cell extracts in a sucrose density gradient showed that viral ribonucleoprotein remained in the cytoplasm for at least 6 hours after infection, during which time it became partly deproteinized. Some viral ribonucleoprotein was found an hour after infection, and thereafter in complexes with protein-synthesizing ribosomes. These complexes were sensitive to ribonuclease and EDTA, and sedimented when treated with immune antiviral serum. Centrifugation in a preformed CsCl gradient showed that the complexes have a buoyancy density of 1.45 and 1.41 g/cm^3 . Newly synthesized virus-specific RNA was also found near the polysomes 3 hours after infection. Its distribution in

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BUKRINSKAYA, A. G., et al, Molekulyarnaya Biologiya, No 3, 1970, pp 313-323

the sucrose density gradient coincided with the distribution of radioactivity of the parent virus, but diverged in later stages of infection.

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1/2 013 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--VIRUS INDUCED SYNTHESIS ON PREFORMED SUBCELLULAR CULTURES -U-
AUTHOR--ZHDANOV, V.M., YERSHOV, F.I., URYAYEV, L.V., NOVOKHATSKIY, A.S.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 1, PP 38-46
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PROTEIN SYNTHESIS, TISSUE CULTURE, EASTERN EQUINE ENCEPHALITIS
VIRUS, VENEZUELAN EQUINE ENCEPHALITIS VIRUS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1987/0053 STEP NO--UR/0402/70/000/001/0038/0046
CIRC ACCESSION NO--AP0103733
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103733

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE STUDY, SYNTHESIS OF RNA AND PROTEIN WAS INVESTIGATED IN MITOCHONDRIAL MICROSOMAL FRACTION DERIVED FROM CHICK EMBRYO FIBROBLASTS INFECTED WITH EEE VIRUS. IN THIS FRACTION REPLICATIVE COMPLEX OF THE VIRUS WAS FOUND AND THERE OCCURRED INTENSIVE SYNTHESIS OF CELLULAR AND VIRUS SPECIFIC RNA AND PROTEINS. PRODUCTS OF THE SYNTHESIS INCLUDED RIBONUCLEOPROTEINS DIFFERING FROM EACH OTHER IN SEDIMENTATION AND DENSITY CHARACTERISTICS. ONE OF RIBONUCLEOPROTEINS HAD SEDIMENTATION CONSTANT 160 S AND DENSITY OF 1.43G-CM³ WHICH CORRESPONDED TO PARAMETERS OF RIBONUCLEOPROTEINS OF VEE VIRUS VIRIONS.

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ZHDANOV, V. M., Member of the Academy of Medical Sciences USSR; YERSHOV, F. I.,
and URYVAYEV, L. V., Institute of Virology imeni D. I. Ivanovskiy, Academy of
Medical Sciences USSR, Moscow

"The Replicative Complex of Venezuelan Equine Encephalomyelitis Virus"

Abstract: Previous studies showed that on infection of chick embryo fibro-
blasts with Venezuelan equine encephalomyelitis virus, a two-strand replicative
form of RNA is formed, which is transformed into a multistrand replicative
intermediate form that induces the synthesis of similar RNA and of several
types of functional RNA. It has been established in experiments with phages
that multistrand RNA combines with the ribosomes of the host cells, forming
a replicative complex that induces both replication and the synthesis of virus-
(phage-) specific proteins. Experiments with Venezuelan equine encephalomyelitis
virus and chick embryo fibroblasts showed that the multistrand replicative RNA
of the virus combined with ribosomes of the chick embryo fibroblast cells and
consequently functioned as the RNA moiety of the replicative complex. Newly
synthesized viral RNA was labelled with H^3 -uridine and proteins were labelled
with C^{14} -containing amino acids.

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USSR

UDC 576.558

YERSHOV, F. I., URYVAYEV, L. V., and ZHDANOV, V. M., Active Member,
Academy of Medical Sciences USSR and DRYNOV, I. D., Institute of Virology
imeni D. I. Ivanovskiy, Academy of Medical Sciences, Moscow

"Cytochemical Analysis of Structures Isolated from Cells Infected with
Arbovirus"

Moscow, Doklady Akademii Nauk SSSR, Vol 190, No 1, Jan/Feb 70, pp 212-
213

Abstract: The morphological characteristics of fraction CC-15, iso-
lated from chick embryo fibroblasts infected with Venezuelan equine
encephalomyelitis virus, were studied with the help of phase contrast
and fluorescence microscopy. Chick embryo fibroblasts and cells
obtained three hours after infection with massive doses of the virus
were disintegrated in a homogenator, and the nuclei, debris, and whole
remaining cells were centrifuged for 10 minutes. The CC-15 fraction
was obtained by the subsequent centrifugation of the homogenate, sus-
pension in 199 medium, and straining with acridine orange, phosphine
3P, and homologous antibodies labelled with fluorescein isothiocyanate.
Part of the preparation were stained with Janus green, or prered by
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YERSHOV, F. I., et al., Moscow, Doklady Akademii Nauk SSSR, Vol 190, No 1, Jan/Feb 70, pp 212-213

by the crushed drop method and studied by means of phase contrast microscopy. Examinations showed that cytoplasmic RNA of whole cells stained with acridine orange fluoresced ruby-red, while the RNA of the nucleoli -- brick-red, and DNA of the nuclei -- emerald-green. Phosphine 3P produced a greenish-brown color in the cytoplasm and a dark-brown color in the cell nuclei. Fluorescence microscopy of the debris and nuclei obtained after homogenation showed large conglomerates of cytoplasm which were ruby-red. Fraction CC-15 stained with acridine orange revealed under phase contrast microscopy a mass of ruby-red granules scattered through the entire field of vision. When stained with phosphine 3P -- single brightly fluorescing lipid granules were observed. A considerable increase in the number of lipid granules was noted when the CC-15 fraction from infected cells was studied by fluorescence microscopy. The presence of a specific virus antigen was observed in the CC-15 fraction treated with fluorescein isothiocyanate. Scattered mitochondria were observed throughout the cytoplasmic network of fraction CC-15 preparations stained with Janus green.

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USSR

UDC 576.858.75.095.6.098.31

AZADOVA, N. B., KUPRADZE, S. A., and ZHDANOV, Y. M., Institute of Virology,
Imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"The Effect of Antineuraminidase Serum on Replication of Sendai Virus"

Moscow, Voprosy Virusologii, No 6, Nov. Dec 71, pp 665-670

Abstract: Addition of antineuraminidase serum (1:50) to fetal pig kidney cell cultures infected with Sendai virus inhibited the release of hemagglutinin, neuraminidase, and the virus into the liquid phase of the cultures, and reduced by a factor of three the intracellular hemagglutinin titer and the intracellular virus concentration. Since these differences were observed even in the initial hours of the infectious process, it was concluded that antineuraminidase serum exerts an effect not only on the final reproduction phase of the virus (as generally believed) but on all phases, probably by penetrating the cell membrane and blocking the synthesis of hemagglutinin and neuraminidase, (which takes place in the cytoplasm), but without affecting the synthesis of ribonucleoproteins (S-antigen), (which takes place in the nucleus).

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USSR

UDC 629.7.036.2

POLEVICHEK, Ye. P., ZHDANOV, V. V.

"Calculation of the Pressure in the Combustion Chamber of a Pulsating Jet Engine During the Process of Filling"

Samoletostr. i Tekhn. Vozd. Flota. Resp. Mezhved. Temat. Nauch.-Tekhn. sb. [Aircraft Construction and Air Industry Technology. Republic Interdepartmental Thematic Scientific and Technical Collection], No 28, 1972, pp 10-15, (Translated from Referativnyy Zhurnal, Aviatsionnye i Raketnye Dvigateli, No 8, 1972, Abstract No 8.34.79, from the Resume).

Translation: The process of filling of the combustion chamber of a pulsating jet engine is studied, and the laws of thermodynamics are used as a basis to produce an equation for calculation of the pressure in the chamber as it is filled with fresh working fluid. An approximate formula convenient for calculation is produced, allowing the desired pressure to be determined with good accuracy. Results of calculations using the precise and approximate formulas are compared. Results of experimental cold blowing of air through a model chamber are presented and compared with the calculated results. 3 Figures; 3 Biblio. Refs.

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USSR

UDC 547.455+547.446+547.241

ZHDANOV, YU. A., and UZLOVA, L. A.

"Phosphorane From 1,3-Dibromopropanone and Syntheses Based on This Process"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 759-762

Abstract: Phosphoranes with a halogen at the first carbon atom -- compounds not obtainable by using the Wittig reaction -- were prepared by reacting symmetrical dibromoacetone with triphenylphosphine in a basic solution, yielding $\text{BrCH}_2\text{COCH} = \text{P}(\text{C}_6\text{H}_5)_3$. The reaction of this compound with the aldehyde form of sugars resulted in the formation of α, β -unsaturated compounds of the form $\text{BrCH}_2\text{COCHCH-R}$. The bromoketones reacted with thiourea to form C-glucosylated thiozols. Under rigorous conditions the obtained phosphanes usually react with active aldehyde groups forming cyclic "sugar" phosphanes. Identity of the products was confirmed by IR spectra. Preparative procedures are given.

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USSR

UDC 547.454:548.813

UZLOVA, L. A., GLEBOVA, Z. I., and ZHDANOV, Yu. A.

"Reactions of α -Haloketoses With Triethyl Phosphite"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 483-484

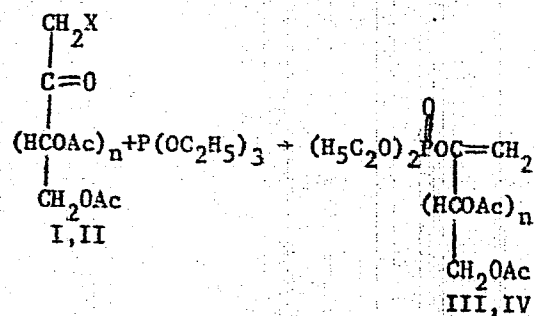
Abstract: The authors studied the reaction between triethyl phosphite and ketose halides. It was found that acetylated 1-halode-1-desoxyuloses 1-chloro-1-desoxy-3,4,5,6,7-penta-O-acetyl-D-galactoheptulose (I) and 1-bromo-1-desoxy-3,4,5,6-tetra-O-acetyl-L-fructose (II) react with triphenyl phosphite to form vinyl phosphates (III, IV).

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USSR

UZLOVA, L. A., Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 483-484



(I) X=Cl, n=4, D-galacto; (II) X=Br, n=3, L-arabino.

Reaction of 1-iodo-1-desoxy-3,4,5,6,7-penta-O-acetyl-D-galactoheptulose with triethyl phosphite gives 1-desoxy-3,4,5,6,7-penta-O-acetyl-D-galactoheptulose.

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USSR

UDC 547.454:548.813

ZHDANOV, YU. A., UZLOVA, L. A., Rostov-on-Donz State University,
Rostov, Ministry of Higher and Secondary Specialized Education RSFSR

"The Carbon-Phosphorus Bond in Carbohydrates"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, p 2138

Abstract: The Arbuzov rearrangement was carried out with carbonyl forms of aldoses, acyl chlorides of aldonic acids and the di-chloroanhydride of tetraacetylmucic acid. 1-Hydroxyphosphinic acids are stable compounds while the esters of α -ketophosphinic acids are unstable. The synthesized compounds show the following IR bands 1748-1754 (C=O of complex esters), 1649-1700 (free C=O), 1246-1281 (P=O), and 1002-1042 (P-O-C).

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1/2 008 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SYNTHESIS OF BRANCHED SUGARS WITH OLEFIN BONDING -U-

AUTHOR-(04)-ZHDANOV, YU.A., UZLOVA, L.A., LESKINA, L.P., GAVRILENKO, O.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(5), 666-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SACCHARIDE, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3001/2001

STEP NO--UR/0079/70/040/003/0666/0669

CIRC ACCESSION NO--AP0127396

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--30OCT70
 CIRC ACCESSION NO--AP0127396
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KETO-L-SORBOSE PENTAACETATE (1)
 AND PH SUB3 P:CHAC HEATED 20 HR IN C SUB6 H SUB6 GAVE
 4,ACETOXYMETHYL,5,6,7,8,TETRA-O-ACETYL,3,4,DIDEHYDRO,1,3,4,
 TRIDEOXY-L-XYLO-OCTULOSE, A SYRUP. SIMILAR REACTION WITH PH SUB3 P:CHBZ
 GAVE 3,ACETOXYMETHYL,4,5,6,7,TETRA-O-ACETYL,1,C,PHENYL,
 2,3,DIDEHYDRO,2,3,DIDEOXY-L-XYLO-HEPTULOSE, A SYRUP, (ALPHA) PRIME20
 SUBD MINUS 10.8DEGREES. SIMILARLY WAS PREPD. ITS 1,C-P-ANISYL ANAOLG
 (1), A SYRUP, (ALPHA) PRIME20 SUBD MINUS 14.7DEGREES;
 2,4,DINITROPHENYLHYDRAZONE M. 171-3DEGREES. 1 AND PHNNHH SUB2 HEATED 1
 HR IN ACOH GAVE 71PERCENT 3,P-ANISYL,
 1,PHENYL,5,(L-XYLO,1,2,3,4,TETRAACETOXYBUTYL),2,PYRAZOLINE, A SYRUP.
 HEATING KETO-L-SORBOSE WITH PH SUB3 P:CHCO SUB2 ME IN CHCL SUB3 17 HR
 GAVE 21PERCENT ME 3,ACETOXYMETHYL,4,5,6,7,TETRA-O-ACETYL,
 2,3,DIDEOXY,2,3,DIDEHYDRO-L-XYLO-HEPTONATE, SYRUP, (ALPHA) PRIME20 SUB3
 MINUS 12.2DEGREES. 2,3,4,5,DI-O-ISOPROPYLIDENE-ALDEHYDO-L-ARABINOSE AND
 PH SUB2 P:C(CO SUB2 ME)CH SUB2 CO SUB2 ME HEATED 5 HR IN CHCL SUB3
 YIELDED 73PERCENT ME
 2,3,4,TRIDEOXY,3,4,DIDEHYDRO,5,6,7,8,DI-O-ISOPROPYLIDENE,3,
 METHOXYCARBONYL-L-ARABINO-OCTONDATE, SYRUP, (ALPHA) PRIME19 SUBD MINUS
 8.6DEGREES. FACILITY: ROSTOV.-NA-DONU GOS. UNIV.,
 ROSTOV-CN-DGN, USSR.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--REFORMATSKII REACTION IN A SERIES OF CARBOHYDRATES -U-
AUTHOR--(03)-ZHDANOV, YU.A., ALEKSEYEV, YU.YE., KURDANOV, KH.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 943-4
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY
TOPIC TAGS--CARBOHYDRATE, FURAN, BENZENE DERIVATIVE, HETEROCYCLIC OXYGEN
COMPOUND, AROMATIC CARBOXYLIC ACID, HYDROXY CARBOXYLIC ACID
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/1342 STEP NO--UR/0079/70/040/004/0943/0944
CIRC ACCESSION NO--AP0133298
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133298

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BRCH SUB2 CO SUB2 ET WAS CONVERTED WITH ZN AND 3,0,BENZYL,1,2,0, CYCLOHEXYLIDENE,5,ALDEHYDO,ALPHA,D,XYLO,PENTODIALDOSE VIA THE REFORMATSKII REAGENT TO GIVE 83PERCENT ET 3,0,BENZYL,1,2,0, CYCLOHEXYLIDENE,6,DEOXY,ALPHA,D,GLUCO(BETA,L,100),HEPTOFURANOSURONATE (I), SYRUP, (ALPHA) PRIME25 SUBD MINUS 14DEGREES, WHICH WITH AC SUB2 O-PYRIDINE GAVE 83PERCENT SIRUPY ACETATE, (ALPHA) PRIME22 SUBD MINUS 39DEGREES, WHICH CAN BE DEACETYLATED TO THE ORIGINAL SUBSTANCE, AND WHICH WITH AQ. ALC. KOH YIELDS 3,0,BENZYL,1,2,0, CYCLOHEXYLIDENE,6,DEOXY,ALPHA,D,GLUCO(BETA,L,100),HEPTOFURANSOSURONIC ACID, SYRUP, (ALPHA) PRIME21 SUBD MINUS 23DEGREES. FACILITY: ROSTOV. GOS. UNIV., ROSTOV, USSR.

UNCLASSIFIED

172 017
UNCLASSIFIED
TITLE--BENZENDIO QUINOID TAUTOMERISM OF AZOMETHINES AND THEIR STRUCTURAL
ANALOGS. V. ACYLOTROPIC TAUTOMERISM OF S, ACETYL, P, THIOBENZALDIMINES -U-
AUTHOR--(04)-ZHODANOV, YU.A., MINKIN, V.I., OLEKHOVICH, L.P., MALYSHEVA,
YE.N.
COUNTRY OF INFO--USSR
SOURCE--ZH. ORG. KHIM. 1970, n(3) 554-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--BENZENE DERIVATIVE, TAUTOMERISM, ORGANIC SULFUR COMPOUND,
IMINE, AROMATIC AMINE, UV SPECTRUM, BOND ENERGY, MOLECULAR ORBITAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1533
CIRC ACCESSION NO--AP0112527
STEP NO--UR/0366/70/006/003/0554/0559
UNCLASSIFIED

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CIRC ACCESSION NO--AP0112527

UNCLASSIFIED

PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE REACTION OF 4-ACSC SUB5 H SUB4 CHO (I) WITH AROMATIC AMINES IN NONPOLAR SOLVENTS GAVE 4-ACSC SUB6 H SUB4 CH:NR (II) (R EQUALS H, 4-MEG, 4-NME SUB2, OR 4-NO SUB2). THE REACTION OF I WITH MORE BASIC ALKYL AMINES 4-HSC SUB5 H SUB4 CHO PLUS ACNHR. IN POLAR SOLVENTS (HCONME SUB2, MECH) I REACTS WITH AROMATIC AMINES TO GIVE ACNHR, ALSO. THIS IS DUE TO THE SHIFT OF THE BENZENDIO THIOQUINOID I EQUIL. TOWARDS THE THIOQUINOID FORM, WHICH IS HYDROLYZED (WITH H SUB2 O PRODUCED DURING THE REACTION) TO GIVE 4-HSC SUB6 H SUB4 CHO AND ACNHR. THIS WAS CONFIRMED BY STUDYING UV SPECTRA OF II (R EQUALS 4-OME) IN BENZENE-OP(NME SUB2) SUB3 MIXTS. THE EQUIL. OF NONACETYLATED II ANALOGS 4-HSC SUB6 H SUB4 CH:NR (III) IS SHIFTED MORE TOWARDS THE THIOQUINOID FORM IN POLAR SOLVENTS THAN II EQUIL. THE DIFFERENCE IS DUE TO WEAKENED C-N PI-BONDING ENERGY OF THE THIOQUINOID II FORMS COMPARED WITH THESE FORMS OF III. THE LCAO-MO CALCNS. CONFIRMED THIS.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--BENZENOID QUINOID TAUTOMERISM OF AZOMETHINES AND THEIR STRUCTURAL
ANALOGS. IV. TAUTOMERIC EQUILIBRIUM IN SOLUTIONS OF N SUBSTITUTED O AND
AUTHOR--(04)-MINKIN, V.L., OLEKHNOVICH, L.P., ZHDANOV, YU.A., OSTROUMOV,
YU.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. ORG. KHIM. 1970 6(3) 549-54
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--BENZENE DERIVATIVE, TAUTOMERISM, AZO COMPOUND, MERCAPTAN,
IMINE, MOLECULAR ORBITAL, ISOMER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1992/1534 STEP NO--UR/0366/70/006/003/0549/0554
CIRC ACCESSION NO--AP0112528
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112528

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF R IN O-HSC SUB6 H SUB4 CH:NR (I) (R IS ALKYL, PH, P-MEC SUB6 H SUB4, P-CLC SUB6 H SUB4, P-ME SUB2 NC SUB6 H SUB4, P-O SUB2 NC SUB6 H SUB4, OR 2,NAPHTHYL) ON THE EQUIL. BETWEEN I AND ITS THIOQUINOID ISOMER (II) IS SOLN. WAS DEDUCED BY THE MG METHOD. THE INCREASE OF R ELECTRON REPELLING CHARACTER SHIFTS THE EQUIL. TOWARDS II.

UNCLASSIFIED

Acc. Nr.

MP0053774

ZHDANOV

Yu. A.

Abstracting Service:

CHEMICAL ABST.

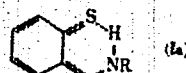
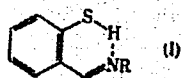
3730

Ref. Code

UR0366

2

110953g Benzenoid-quinonoid tautomerism of azomethines and their structural analogs. III. Synthesis, structure, and thermochromism of N-substituted o-mercaptobenzaldimines. Minkin, V. I.; Olekhovich, L. P.; Nivorozhkin, L. E.; Zhdanov, Yu. A.; Knyazharskiy, M. I. (Rostov-na-Donu Gos. Univ., Rostov-on-Don, USSR). Zh. Org. Khim. 1970, 6(2), 348-54 (Russ.). The reaction of 2-NCSC₆H₄CHO with Na₂S gave 2-HSC₆H₄CHO which was condensed with amines to give 2-HS-C₆H₄CH:NR (I), R is Ph, 4-C₆H₄OMe, 4-C₆H₄NMe₂, 2-C₆H₄OH, or Bu. Similarly, the condensation of 2-MeSC₆H₄CHO with amines gave 2-MeSC₆H₄CH:NR (II). The comparison of uv and ir spectra of I and II showed that I exist in their tautomeric



colored quinonoid forms (Ia) due to H bonding. The equil. between I and Ia depends on the pblarity of the R group. Less nucleophilic R groups shift the equil. towards Ia.

CPJR

REEL/FRAME

19830837

7

Pesticides

USSR

UDC 631.893.12

BORISOV, V. M., ZHDANOV, Yu. F., DOKHOLOVA, A. N., POPOV, N. P., KONYUKHOVA, Ye. B., KIPRIYANOV, Yu. I., KARTOSHKIN, A. D., and KALASHNIKOV, V. A.

"Production of Granulated Ammophos Using the BGS Apparatus"

Moscow, Khimicheskaya Promyshlennost', No 12, 1973, pp 905-907

Abstract: Industrial experimental results are reported on the production of ammophos from the apathite concentrate. The method used involved evaporation of the pulp in a multiple unit vacuum evaporation apparatus followed by granulation in a BGS unit [Drum granulator-dryer]. Technological parameters are reported for the neutralization of the extracted phosphoric acid with ammonia, evaporation of the ammonized pulp, drying and granulation of ammophos.

1/1

USSR

ZHBANOV, YU. K., Moscow

UDC: 531.1

"Solving Motion Equations for a Gyrohorizoncompass Under Conditions of Finite Angles of Deviation From the Meridian"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Tverdogo Tela, No 4, Jul-Aug 73, pp 102-104

Abstract: The author proposes a solution to the motion equations of a gyrohorizon-compass at finite angles of deviation from the meridian. The solution is based on the noncomplex change of variables in A. Yu. Ishlinskiy's equations which makes it possible to obtain a linear system which reflects the behavior of a gyrohorizon-compass at finite angles of deviation from the meridian if the angles of deviation from the vertical remain small.

1/1

- 127 -

USSR

UDC 549.746

INDOLEV, L. N., ZHDANOV, YU. YA., KASHIRSEVA, K. I., SIKNEV, V. S., and
DEL'YANIDI, K. I., Institute of Geology, Yakutsk Branch, Siberian Department
of the Academy of Sciences USSR

"Magnesium and Aluminum Hydrocarbonates -- the New Mineral Indifirite"

Zapiski Vsesoyuznogo Mineralogicheskogo Obshchestva, 2nd Series, No 2, 1971,
pp 178-183

Abstract: A new mineral has been found along the Indifirka river in North-
east Yakutia (near the Arctic Circle). Called "indifirite," the mineral is
a rosette-like divergent, randomly arranged aggregate. In the center of the
rosette there are occasionally fine "seed" hips. In the fine cracks, fan-
shaped deposits are cleaved by a mass of very fine fibers, needles, or
lamina about 1 mm in length. Indifirite is snow-white, and has a glossy
luster with a silky cast. The hardness is about 2. The lamina and fibers
are elastic. The specific weight is 1.6 ± 0.1 .

Indifirite is not radioactive and is optically anisotropic. It is
insoluble in water, alcohol, and ammonia. In acids and KOH it dissolves
instantly, with the formation of odorless gas bubbles. Chemical analysis
gave the following composition, (in wt.%): HgO , 12.08%; Al_2O_3 , 14.58%; CaO
1/2

- 74 -

USSR

INDOLEV, L. H., et al., Zapiski Vsesoyusnogo Mineralogicheskogo Obshchestva, 2nd Series, No 2, 1971, pp 178-183

0.45% Fe_2O_3 , 0.64% CO_2 , 24.18% H_2O , 44.36% SO_3 , 0.49%.

Electron microscopic pictures revealed elongated tabular forms with uneven edges. Fine material was noted in the crystalline spaces and dehydration of the mineral under vacuum was observed. The parameters of the dehydrated crystals were found to be for c, $6.23 \pm 0.02\text{\AA}$, lengthwise and $3.16 \pm 0.02\text{\AA}$ crosswise, which was close to that of artinite. Dabye powder patterns for the untreated mineral did not match any known mineral or synthetic compound. Heat treatment at 100°C also gave an original Dabye pattern, but material heat treated at 900°C showed a spinel-type pattern which is natural for a magnesium-aluminum hydrocarbonate. Heat loss curves showed endothermic minima at 120° , 160° , and 215°C . Very little change in weight was noted above 200°C . A very slight endothermic effect was noted at 550°C for two of three samples. The peaks suggested loss of water of crystallization, hydroxyl water, and dissociation of complex carbonates. Infra-red spectra confirmed the proposed structure of the new mineral. Comparisons were also made with other water-containing magnesium or magnesium-aluminum carbonates.

2/2

USSR

UDC: 518.5:681.3.06

ZHDANOV, Zh. D., KONYKHOV, A. A., STRUPINSKIY, A. N.

"Operational Experience With the 'Dnepr-1' Universal Computer in a System for Control of Galvanic Production"

V sb. Kibernet. tekhnika. Vyp. 4 (Cybernetic Technology--collection of works, No 4), Kiev, 1970, pp 41-55 (from RZh-Kibernetika, No 7, Jul 71, Abstract No TV768)

[No abstract]

Acc. Nr

AP0032459

Abstracting Service:
CHEMICAL ABST. 3-70

Ref. Code
UR0200

42011w Effect of heteroauxin on the metabolism of corn coleoptiles in various growth areas. Zvyagintsey, V. I.; Zemlyanukhin, A. A.; Zhdanova, N. (USSR). *Nauka. Zap. Vostochn. Otd. Vses. Bot. Obshchest.* 1968, 41-8 (Russ). Coleoptiles of 7-day-old corn seedlings grown in the dark in water were sprayed with heteroauxin at 10 mg/l., isolated 1 or 24 hr after the treatment, and exposed to light. The individual growth zones of coleoptiles were sepd., fixed, and analyzed for org. acid, carbohydrate, amino acid, and protein N contents. Coleoptiles given only water served as controls. Heteroauxin increased the absorption and transformation of org. acids and carbohydrates, and affected the protein synthesis in the longitudinal growth zone of coleoptiles. The metabolism of corn coleoptiles in other growth zones was less affected. V. Kubala

REEL/FRA
19700740

Acc. Nr:

AP0050780

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

U/R 0333

99211r Infrared analyzer of milk. Zhdanova, E. A.; Fetisov, E. A. (Vses. Nauch.-Issled. Inst. Moloch. Prom., Moscow, USSR). Moloch. Prom, 1970, 31(1), 23-5 (Rus). A description of the Grubb Parsons IRMA spectrophotometer for the analysis of fat, protein, and lactose in milk. Lola Brodfeld

REEL/FRA
19810780

AP9048234

CHEMICAL ABST. 10-69

4R 0333

79823t Correlation dependence between the resistance of milk to ethanol and some of its other properties. Zhdanov, E. A.; Alekseeva, N. Yu. (Vses. Nauch.-Issled. Inst. Moloch. Prom., Moscow, USSR). Moloch. Prom. 1969, 80(5), 23-6 (Russ). An alc. test method was studied for detn. of the thermal stability of milk during sterilization. Eighty-six percent of the samples stood the test well at 72% EtOH. A relation between the milk's properties and its resistance to EtOH was established. It was learned that in fresh milk there is a correlation between resistance to EtOH and such properties as acidity, fat content, protein content, or reductase test. A slight reverse correlation was found between resistance to EtOH and the Ca content in milk.

mk

14
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1947 0799

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AP0007696

CHEMICAL ABST.

12-69

UR0192

128925p Calculation of the electron structure of molecules by the method of two-electron orbitals. II. B.L.C.A.O. [bilinear combinations of atomic orbitals] program. Lyast, I. Ts.; Yampol'skaya, T. S.; Zhdanova, E. M. (Inst. Khim., Ufa, USSR). *Zh. Strukt. Khim.* 1969, 10(4), 137-8 (Russ). Two-electron orbitals (TO) are expressed in terms of 2 basic wave functions which are the A.O. of 2 valence bound atoms. An analog of the Mulliken formula is used to simplify integrals that include 3 TO. A computer program has been written which yields a set of matrix elements that depend only on individual valence bonds and which includes information on mol. structure. The method is applicable to mols. in which the no. of pairs of unlike bonded atoms ≤ 4 and the no. of distinctly different bonds ≤ 11 .

L. F. Koons

mk

19541974

21

USSR

UDC 576.8.06.083.1(047)

ZHDANOVA, L. G., and GRUBER, I. M., Moscow Institute of Vaccines and Sera
imeni Mechnikov

"Continuous Culture of Pathogenic Microorganisms (A Review)"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, 1973,
pp 92-97

Abstract: Continuous culture makes it possible to obtain a microbial biomass that can easily exceed that obtained by conventional culturing 40-50 times per unit of time. Continuous culture offers a number of advantages as, for example, in the isolation of the M protein from group A hemolytic streptococci grown on a synthetic medium without proteins. In conventional culturing it is difficult to obtain this protein since it is rapidly degraded by proteases which accumulate in the medium. On the whole, it appears that continuous culture has been most often employed in the case of pathogenic microorganisms for the preparation of cellular vaccines, or vaccines consisting of cell products (toxins). However, continuous culturing is not used as widely as might be expected in view of the fact that in many cases the important antigenic determinant in a vaccine is not known, and because of the difficulty in keeping the apparatus sterile with respect to undesirable organisms. Most frequently, continuous culture is employed for the preparation of whooping cough vaccines.

1/1

USSR

UDC 576.851.49.095.335:546.461.
083.3

KRASNOVA, I. Ye., and ZHDANOVA, L. G., Moscow Institute of Vaccines and
Sera imeni Mechnikov

"Utilization of Magnesium by Typhoid Bacteria During Continuous Culturing"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973,
pp 133-134

Abstract: Utilization of magnesium by *S. typhi* vaccine strain Ty₂ 4446 was studied in the presence of varying glucose concentration (0.02-18 gm/liter) and dilution rates (0.2-0.7 liters/hour). The logarithm of the unit rate of consumption was found to be linearly proportional (to the 4th power) to the dilution rate in the presence of both excess and limited glucose. Such increases in consumption rates were reflected in cell magnesium content, which increased by a power of 2 in limited glucose and by a power of 3 in excess glucose. The number of cells in the culture was also important: Consumption rate in logarithmic terms was linear and inversely dependent on cell number. Finally it was shown that magnesium consumption rates varied more widely in response to changing dilution rates for pathogenic than nonpathogenic (eg *Aerobacter aerogenes*) bacteria. It is suggested that the effects of glucose content in substrate on

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USSR

KRASNOVA, I. Ye. and ZHDANOVA, L. G., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973, pp 133-134

magnesium utilization and the differences in cell magnesium concentration between pathogenic and nonpathogenic bacteria stem from specific physiological properties of the bacteria.

2/2

1/2 017 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--IMUNOLOGICAL STRUCTURE OF TULA POPULATION IN RESPECT TO MEASLES AT
DIFFERENT PERIODS OF THE YEAR -U-
AUTHOR--(04)-SILICH, V.A., KHAZANOV, M.I., ZHDANOVA, G.L., SEVEROV, A.M.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5,
PP 109-115
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--IMMUNOLOGY, HEMAGGLUTINATION INHIBITION TEST, MEASLES

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/0150

STEP NO--UR/0016/70/000/005/0109/0115

CIRC ACCESSION NO--AP0114546

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114546

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IMMUNOLOGICAL STRUCTURE OF TULA POPULATION IN RESPECT TO MEASLES WAS STUDIED WITH THE AID OF HEMAGGLUTINATION INHIBITION REACTION. OVER 3,000 UNSELECTED CASES FROM VARIOUS AGE GROUPS WERE EXAMINED IN MARCH AND IN DECEMBER, 1966. THERE WAS NOTED A REGULARITY COMMON TO BOTH SEASONS: THE NUMBER OF POSITIVE REACTIONS INCREASED FROM 5-14PERCENT AT THE AGE OF 1-2 YEARS TO THE MAXIMAL IN SCHOOLCHILDREN AND ADULTS EQUAL TO 89PERCENT IN MARCH, AND 54PERCENT IN DECEMBER. IN DECEMBER (THE TIME OF INTENSIVE ELEVATION OF MEASLES INCIDENCE IN TULA) THE PERCENTAGE OF POSITIVE HEMAGGLUTINATION INHIBITION REACTIONS WAS MUCH LESS THAN IN MARCH. A FALL IN THE LEVEL OF IMMUNOLOGICAL REACTIONS IN DECEMBER COULD BE ATTRIBUTED TO THE DEPRESSIVE EFFECT OF NONSPECIFIC SEASONAL FACTORS ON THE GENERAL IMMUNOLOGICAL REACTIVITY OF THE ORGANISM, AND ALSO TO REDUCTION OF THE CIRCULATION OF MEASLES VIRUS DURING THE PRECEDING PERIOD OF LOW MEASLES INCIDENCE. ONE OF THE CAUSES OF ELEVATION OF MEASLES INCIDENCE DURING THE AUTUMN WINTER PERIOD IS POSSIBLY A REDUCTION OF THE IMMUNITY LEVEL TO MEASLES AMONG THE POPULATION. FACILITY: TSENTRAL'NYY INSTITUT EPIDEMIOLOGII.

UNCLASSIFIED

USSR

UDC: 533.6.011.8

VASIL'EV, L. A., ZHDANOVA, L. N. and KINAYCHEV, A. D.

"Moment Characteristics of 15-Degree Cones in Flow of Rarefied Gas"

Novosibirsk, Sb. Eksperim. Issled. i Vopr. Modelir. Tekheniy Razrezhenogo Gaza (Symposium on Experimental Investigations and Modeling Problems of Rarefied Gas Flow), 1971, pp 105-111 (from Referativnyy Zhurnal-Mekhanika, 1973, Abstract No 2B266 by A. I. Bunimovich)

Translation: Results are presented of an experimental investigation to determine the aerodynamic moment of cones with 15° half-opening angle and with apex rounded to the radius of 0, 0.3, 0.6, 0.9 and 1.0, with Mach number of 4 to 7 and angle of attack from 0 to 180° . A continuous increase of non-dimensional aerodynamic moment coefficient with the decrease of Reynolds number is observed. The experimental data are compared to the calculation results based on Newton theory, Free Molecular Flow theory and theory based on local interaction hypothesis.

1/1

USSR

UDC 576.858.13.098.31.095.383

LINITSKAYA, G. L., ZEDANOVA, L. V., MENTKEVICH, L. M., and GALEGOV, G. A.,
Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences
USSR, and Institute of Epidemiology and Microbiology imeni N. F. Gamaleya,
Academy of Medical Sciences USSR, Moscow

"The Effect of Interferon on Induction of Alkaline and Acid DNA-ses in Cell
Culture Infected With Vaccinia Virus"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 70, pp 549-552

Abstract: The effect of interferon on virus-induced synthesis of alkaline (early) and acid (late) DNA-ses was studied. It was found that both enzymes are highly sensitive to interferon and were significantly inhibited by it even in the lowest dose studied. The highest concentration tested completely blocked their synthesis. However, the interferon concentrations used were not sufficient to inhibit production of the infectious virus. Interferon prevents the combination of cell ribosomes with viral RNA to form viral polysomes and, eventually, virus-specific early proteins. As a result, synthesis of viral DNA polymerase and, consequently, of viral DNA is inhibited. This process did not occur in the system studied. Evidently DNA polymerase is less sensitive to the effect of interferon. The tests suggest that vaccinia virus can

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USSR

LINITSKAYA, G. L., et al, Voprosy Virusologii, No 5, Sep/Oct 70, pp 549-552

multiply in cells in the absence of synthesis of both early and late
DNA-ses.

2/2

- 55 -

USSR

UDC 576.858.095.383.095.18:615.273.53

MENTKEVICH, L. M., ZHDANOVA, L. V., ORLOVA, T. G., and SOLOV'YEV, V. D.,
Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of
Medical Sciences USSR, Moscow

"The Effect of Heparin on Interferon Induction and Interference Caused by
Viruses and Synthetic Polynucleotides"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 72, pp 401-404

Abstract: Chick embryo cells infected with Newcastle disease virus (NDV) and vesicular stomatitis virus (VSV) were treated with heparin to study the role of interferon in homologous and heterologous viral infections and in the defense reaction caused by synthetic interferon inducer (poly I:C). Although heparin had no effect on interferon activity itself, it did inhibit interferon production stimulated by the viruses and by poly I:C, even when poly I:C was combined with DEAE-dextran. Interference of NDV reproduction remained unchanged when cultures treated with heparin were infected with a homologous virus, while a great degree of suppression of such interference was noted in heparin-treated cultures infected with both NDV and VSV. This indicates that the interferon system is not involved in the interaction between homologous viruses, but that it is involved in heterologous interference. The effect of heparin on the action of poly I:C and a combination of poly I:C and DEAE-dextran indicates also that

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USSR

MENTKEVICH, L. M., et al, Voprosy Virusologii, No 4, Jul/Aug 72, pp 401-404

the interferon system is involved in the action of these synthetic polynucleotides. In addition to suppressing interferon production, heparin also reduced cellular DNA and RNA synthesis. Thus inhibition of DNA and RNA synthesis may be the path by which heparin suppresses interferon production.

2/2

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1/2 027 UNCLASSIFIED PROCESSING DATE--300CF70
TITLE--INVESTIGATION OF HOMOLOGOUS INTERFERENCE OF NEWCASTLE DISEASE
VIRUS. COMMUNICATION II: HOMOLOGOUS INTERFERENCE CAUSED BY PARTIALLY
AUTHOR-(02)-ZHDANOVA, L.V., MENTKEVICH, L.M.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 3, PP 295-297
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--NEWCASTLE DISEASE VIRUS, INTERFERON, TISSUE CULTURE,
IRRADIATION EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1842 STEP NO--UR/0402/70/000/003/0295/0297
CIRC ACCESSION NO--AP0125453
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 027

CIRC ACCESSION NO--AP0125453

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PARTIAL INACTIVATION WITH
ULTRAVIOLET AND GAMMA RAYS OF NEWCASTLE DISEASE VIRUS RETAINING FROM 50
TO 0.2 PERCENT OF THE INITIAL INFECTIVITY STIMULATED INTERFEROGENICITY OF
THE PREPARATIONS BOTH IN ANIMALS (SERUM INTERFERON) AND IN CHICK EMBRYO
CULTURES. IN CONTRAST, THE INTERFERING ACTIVITY OF IRRADIATED VIRUSES
FOR HOMOLOGOUS STRAINS WAS MARKEDLY REDUCED. FACILITY: INSTITUT
EPIDEMIOLOGII I MIKROBIOLOGII IMENI N. F. GMALEV AMN SSSR, MOSKVA.

UNCLASSIFIED

USSR

UDC 582.288.577.391

ZHDANOVA, N. M., and BONDAR, A. I., Institute of Microbiology and Virology, Academy of Sciences, Ukrainian SSR

"The Radioresistance of Lyophilized Cladosporium Sp. 396 Conidia"

Kiev, Mikrobiologichnyy Zhurnal, Vol 32, No 1, Jan/Feb 70, pp 32-35

Abstract: The effect of gamma-radiation from Co⁶⁰ on the radioresistance of dry conidia of Cladosporium sp. 396 was studied. The Weston Lyophilization method was used to dry the conidia. Experiments showed that the resistance of lyophilized conidia to gamma-radiation is noticeably lower than that of untreated wet controls. A dose relationship was discovered between survival and irradiation in the range 130-270 rad/sec, similar to previously observed phenomena with untreated conidia in water and on a cover glass. It was suggested that the reason for the lower resistance to gamma-radiation of fungal conidia is due to changes in the chemical structure of fungal melanine due to lyophilization.

1/1

Acc. Nr:

AP 0047224

Ref. Code: UR 0216

PRIMARY SOURCE: Izvestiya Akademii Nauk SSSR, Seriya
Biologicheskaya, 1970, Nr 1, pp 83-86

N. N. ZHDANOVA, V. D. POKHODENKO

EPR SPECTRA AND RADIORESISTANCE OF SOME SPECIES
OF THE DEMATIACEAE FAMILY

D. K. Zabolotni Institute of Microbiology and Virology,
Academy of Sciences, UkrSSR

Analysis of EPR spectra in fungi of the Dematiaceae family has shown that the concentration of paramagnetic particles in this case is at least by 3-4 orders higher than in the fungi lacking this pigment, this amounting to 10^{17} - 10^{18} pp/g. A simbiatic dependance of radioresistance of 7 species (9 strains) of darkcoloured hyphomycetes on the concentration of pp was found. The radioresistance of the samples increased parallel to the increment of the amount of p. particles.

REEL/FRAME

19790726

1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--PULMONARY EMPHYSEMA IN THE LIGHT OF FUNCTIONAL DATA -U-

AUTHOR--(02)-ZHDANOVA, N.S., KIRILLOVA, I.I.

COUNTRY OF INFO--USSR

SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 5, PP 63-66

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PULMONARY EMPHYSEMA, DIAGNOSTIC MEDICINE, ELECTROCARDIOGRAPHY,
HYPOXEMIA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0013

STEP NO--UR/0504/70/042/005/0063/0063

CIRC ACCESSION NO--AP0120713

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 021

CIRC ACCESSION NO--AP0120713

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE AUTHORS INVESTIGATED THE FUNCTIONAL CONDITION OF THE LUNGS AND HEART IN 92 PATIENTS WITH PULMONARY EMPHYSEMA AND DETERMINED THE INDICES OF PULMONARY VENTILATION, VITAL CAPACITY AND RESIDUAL VOLUME (HELIUM METHOD), INDICES OF BRONCHIAL PATENCY: INSPIRATION AND EXPIRATION CAPACITY (PNEUMOTACHOMETRY), MAXIMUM PULMONARY VENTILATION AND FORCED SINGLE SECOND VITAL CAPACITY AFTER TIFENO VOTCHAL. TO JUDGE UPON THE HEART CONDITION THE EEG WAS STUDIED. THERE WAS A CLOSE RELATIONSHIP BETWEEN THE VALUE OF THE RESIDUAL VOLUME AND THE INDICES OF BRONCHIAL PATENCY (EXPIRATION CAPACITY, MAXIMUM PULMONARY VENTILATION, FORCED VITAL CAPACITY OF THE LUNGS). THE USE OF BRONCHOLYTIC SUBSTANCES IMPROVED BRONCHIAL PATENCY AND DEMONSTRATED REVERSIBILITY OF EMPHYSEMA. IT WAS ESTABLISHED THAT THE EXTENT OF MARKEDNESS OF ARTERIAL HYPOXEMIA DEPENDED UPON THE IRRAGULARITY OF ALVEOLAR VENTILATION AND WAS NOT ASSOCIATED WITH THE EXTENT OF MARKEDNESS OF PULMONARY EMPHYSEMA. DISTINCT SIGNS OF THE RIGHT HEART OVERSTRAIN ACCORDING TO ECG DATA APPEAR ONLY IN EXTENSIVE EMPHYSEMA WHEN THE RESIDUAL VOLUME OF THE LUNGS IS NOT OVER THAN 50PERCENT OF THEIR TOTAL CAPACITY.

FACILITY: TSENTRAL'NAYA

KLINICHESKAYA BOL'NITSA 4-GO GLAVNOGO UPRAVLENIYA MINSTERSTVA ZDRAVOOKHRANENIYA SSSR, MOSCOW.

UNCLASSIFIED

Acc. Nr. **AP0045148**

Abstracting Service:
CHEMICAL ABST.

Ref. Code

5-70 2R0138

91293y Properties of ebonites containing lignin treated by electrohydraulic shock. Kochanova, O. M.; Zhdanova, S. V.; Storozheva, L. N.; Rempel, S. I. (Sverdlovsk. Filial Nauch.-Issled. Inst. Rezin. Prom., Sverdlovsk, USSR). *Kauch. Rezina* 1970, 29(1), 20-2 (Russ). Lignin (I) was washed with H₂O at 50-2°, acidified to pH 2.5-2.7, filtered, placed in a reactor contg. H₂O, and treated by electrohydraulic shock at a voltage of 45 kV for 8 min at 130 impulses/min. The modified I conferred on ebonite (II) superior elastic, physicomach., and dielec. properties. The physicomach. and dielec. properties of I-filled II were as good as those of II filled with II dust or kerogen-70. The max. vulcanization temp. of I-filled II was 180°. CKJR

LD

REEL/FRAME

19780048

USSR

UDC: 621.372.852:621.317

PETROSYAN, F. N., ZHDANOVA, T. Ya.

"Error Analysis in a Microwave Polarization Phase Shifter, and Methods of Certification"

Tr. VNIi fiz.-tekhn. i radiotekhn. izmereniy (Works of the All-Union Scientific Research Institute of Physicotechnical and Radio Engineering Measurements), 1970, vyp. 2(32), pp 102-106 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5A215)

Translation: The paper presents the results of an analysis of partial and total errors in microwave polarization phase shifters. An estimate is given of the certification error in the output spectrum of the phase shifters due to mismatches in the measurement channel. One illustration, bibliography of five titles. Resumé.

1/1

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DISPERSE CONDENSATION STRUCTURES OF POLYESTER URETHANES -U-
AUTHOR-(04)-YABKO, YA.M., POLINSKIY, S.L., ZHDANOVA, V.I., VLODAVETS, I.N.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(1), 155-7
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--PLASTIC FILM, POLYURETHANE RESIN, POLYGLYCOL, ORGANIC
ISOCYANATE, CAPROLACTAM, POROSITY, MOLECULAR STRUCTURE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1091 STEP NO--UR/0020/70/191/001/0155/0157
CIRC ACCESSION NO--AT0124748
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0124748

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POROUS POLYURETHANE FILMS WERE PREPD. FROM THE REACTION PRODUCTS OF POLY(PROPYLENE GLYCOL), MOL. WT. SIMILAR TO 2000, H SUB2 NNH SUB2 .H SUB2 O, AND TOLYLENE DIISOCYANATE, OR OF POLYCAPROLACTAM, BUTANEDIOL, AND BIS[ISOCYANATOPHENYL]METHANE. THESE POLYMERS WERE SOL. IN ALL PROPERTIONS IN HCONME SUB2, HOWEVER THE ADDN. OF 5-10PERCENT H SUB2 O (PREFERABLY BY THE ABSORPTION OF H SUB2 O VAPOR) CAUSED THE SEPN. OF THE POLYMER GLOBULES WHICH SETTLED, FORMING POROUS AND ELASTIC FILMS (ELONGATION AT BREAK SMALLER THAN OR EQUAL TO 700PERCENT, H SUB2 O (G) PERMEABILITY SIMILAR TO 6 MG-CM PRIME2-HR). THE EFFECT OF THE AMT. OF H SUB2 O, AND THE TEMP. ON THE SOLN. METASTABILITY AND THE FILM PROPERTIES WERE ESTABLISHED. FACILITY: VSES. NAUCH.-ISSLED. INST. PLENOCHNYKH MATER. ISKUSSTV. KOZHI, MOSCOW, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DETERMINATION OF THE FAT CONTENT IN HOMOGENIZED MILK -U-
AUTHOR-(02)-PATRATY, A.P., ZHDANOVA, YE.A.
COUNTRY OF INFO--USSR
SOURCE--MOLOCH. PROM. 1970, 31(3), 15-16
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PROCESSED ANIMAL PRODUCT, FAT, FOOD ANALYSIS, CENTRIFUGATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1998/0678 STEP NO--UK/0333/70/031/003/0015/0016
CIRC ACCESSION NO--AP0121339
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121339

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METHOD OF GERBER FOR DETN. OF
FAT IN HOMOGENIZED MILK WAS INVESTIGATED AND COMPARED WITH THE ROESE
GOTTLIEB METHOD. CONTINUOUS CENTRIFUGATION CAN BE SUBSTITUTED FOR A 3
STEP PROCEDURE. FACILITY: VSES. NAUCH.-ISSLEO. INST. MOLOCH.
PROM., MOSCOW, USSR.

UNCLASSIFIED

Measuring, Testing, Calibrating

USSR

UDC: 550.834

BIBER, L. A., ZHDANOVA, Yu. Ye., LEGKIY, G. K., All-Union Scientific Research Institute of Electric Power Engineering

"A Seismic Vibration Pickup"

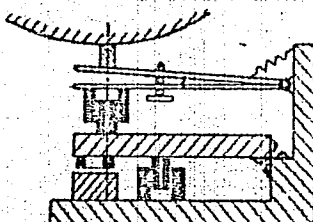
Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329405, Division G, filed 30 Jul 70, published 9 Feb 72, p 160

Translation: This Author's Certificate introduces a seismic vibration pickup which contains measurement and balancing transducers. As a distinguishing feature of the patent, the device is designed for measuring the absolute vibration of a rotating shaft. It is equipped with an additional measurement transducer with secondary winding securely connected to a pendulum at its point of rest, and primary winding fastened on a lever which is one of two making up a system in which the other lever carries a contact brush located on one axis with the transducer windings. A pressure spring is also fastened to this other lever. The levers of the system are interconnected by a common axis of rotation, a micrometer screw and a helical spring.

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USSR

BIBER, L. A. et al., USSR Author's Certificate No 329405



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USSR

UDC 611.136.02:612.014.47

ZHDANOVA, Z. N., Department of Normal Anatomy, 1st Leningrad Medical
Institute imeni I. P. Pavlov

"The Effect of Gravitational Stress on the Blood Vessels of the Peritoneum"

Leningrad, Arkhiv Anatomii, Gistologii i Embriologii, Vol 64, No 5, 1973,
pp 98-102

Abstract: The purpose of the investigation was to study the state of the vascular and terminal bed of the animal (cat) peritoneum after gravitational stress. In the first four series of experiments (15 animals each) the cats were subjected to single unendurable stresses of longitudinal (cranio-caudal and caudal-cranial) and transverse (ventro-dorsal and dorsal-ventral) direction. A fifth series tested the effect of regular, functionally endurable stresses, and the final series was an attempt to increase the resistance of the animals to the stress through conditioning. The methods of roentgenography and clearing the section were employed. After unendurable stresses in the cranio-caudal direction, dilated blood vessels and rupturing of the walls of the arterioles, venules, and capillaries were observed. Vessels in the parietal peritoneum became rarefied. Dilation of all links of the arterial and venous bed and ruptures of the arterial and venule walls were

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USSR

ZHDANOVA, Z. N., Arkhiv Anatomii, Gistologii i Embriologii, Vol 64, No 5, 1973, pp 98-102

found in the mesentery of the small intestine. After unendurable ventro-dorsal stresses the blood-vascular network of the peritoneum showed sinuosity of the vessels, more anastomoses, and dilation of the components of the microcirculatory bed, while capillaries were constricted only in the mesentery of the small intestine. After unendurable dorsal-ventral stresses, vessels of uneven diameter appeared in the circulatory system of the peritoneum. Microvaricose dilations, more pronounced along the course of the veins, alternated with sharply constricted portions. All components of the microcirculatory bed were dilated, while the capillaries of the mesentery of the small intestine were constricted. The final series indicated that animal endurance to stresses can be increased significantly by training on the centrifuge. In these animals a slight dilation and sinuosity of the blood vessels was observed, a compensatory-adaptational change.

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USSR

UDC 669.046.5

SITNIKOV, V. F., VERKHOVTSSEV, E. V., VASIL'YEV, N. Ye., ZHDANOVICH, K. K. and
UPSHINSKIY, Ye. A.

"Development of the Technology for High-Quality Alloy Steel Making in
Martin Furnace With Deoxidation and Alloying in Ladle With Liquid Alloy and
Simultaneous Refining With Synthetic Slag"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISIS). (Collection of
Works. Modern Problems of Steel Quality), (Moscow Institute of Steel and
Alloys). Izd-vo "Metallurgiya," No 61, 1970, pp 250-252

Translation of Abstract: Results are presented on the joint treatment of
martin steel in a ladle by liquid alloys and synthetic slags, resulting in a
substantially increased assimilation of the alloying elements, in a high
degree of desulfurization and dephosphorization, and in reduction of steel
contamination by nonmetallic impurities. The quality of metal obtained is
similar to that produced in electric furnaces. 2 tables.

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- 41 -

USSR

UDC 615.285.7:546.18/099+616-099-02:615.285.7:
546.18/-085,357:577.164.11/13

ZHDANOVICH, N. V., and UDALOV, YU. F., Medical Institute imeni I. P. Pavlov

"Prophylactic and Therapeutic Effectiveness of Some Vitamins in Chlorophos Intoxication"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 1, 1970, pp 37-40

Abstract: An endogenous vitamin deficiency was induced in rats by injections of antimetabolites (hydroxythiamine, 4-desoxypyridoxine, ethionamide, cycloserine, cetamiphen). Neither thiamine nor pyridoxine had any prophylactic or therapeutic value when animals were poisoned with chlorophos (Dipterex) (2 LD₅₀). However, the vitamins increased the animals' survival rate considerably when a smaller dose of chlorophos (LD₅₀) was used, because the poisoning developed more slowly. Hydroxythiamine hypovitaminosis did not reduce the survival rate, although the clinical course of the poisoning was very severe. The administration of other antimetabolites (ethionamide, 4-desoxypyrimidine, etc) had little effect on the survival

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ZHDANOVICH, N. V., et al., Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 1, 1970, pp 37-40

rate. Sublethal doses of chlorophos against a background of vitamin B₁ and B₆ deficiency reduce the activity of the respiratory enzymes. Administration of thiamine increased succinic dehydrogenase activity in all organs and cytochromeoxidase activity in the brain, kidneys, and liver.

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USSR

UDC 615.285.7.099.036.11.085.356:577.164.1
ZHDANOVICH, N. V., and UDALOV, YU. F., Ryazan' Medical Institute
imeni I. P. Pavlov

"The Role of Thiamine and Pyridoxine in Acute and Subacute Intoxication with the Organophosphorus Insecticide Dipterex"

Moscow, Voprosy Pitaniya, Vol 29, No 1, Jan/Feb 70, pp 28-34

Abstract: The toxicity and effect of dipterex on tissue respiration was studied depending on levels of thiamine and pyridoxine in the organism with acute or subacute toxicity. Male and female rats were given 1140 or 570 mg/kg of dipterex orally (acute intoxication) or 57 mg/kg of dipterex (subacute poisoning) per day. The vitamins (thiamine hydrochloride and pyridoxal phosphate) and their antimetabolites (oxythiamine and 4-desoxypyridoxine) were injected intramuscularly. Thiamine and pyridoxine, introduced into the organism at different periods following a dipterex dose of 1140 mg/kg. had no marked protective or curative effect, but in all cases prolonged the lifespan of animals. With the 570 mg/kg dose of dipterex, both the protective and "therapeutic" effects were fairly distinct. Partial thiamine and pyridoxine deficiency aggravated the clinical picture

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ZHDANOVICH, N. V., et al., Moscow, Voprosy Pitaniya, Vol 29, No 1,
Jan/Feb 70, pp 28-34

(oxythiamine) and enhanced the toxic effects of the preparation (4-desoxypyridoxine). Subacute dipterex poisoning was characterized by changes in succinate dehydrogenase and cytochromoxidase activity, especially when poisoning was combined with experimentally induced hypovitaminosis. The enhanced toxic effect of dipterex under these conditions was also confirmed by weight changes of animals. Introduction of dipterex simultaneously with thiamine and pyridoxine normalized the activity of respiratory enzymes, lessening the severity of the clinical picture and preventing weight loss.

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Acc. Nr: **AP0041467**

Ref. Code: UR 0244

PRIMARY SOURCE: **Voprosy Pitaniya, 1970, Vol 29, Nr 1,**
PP 28-34

**THE ROLE OF THIAMINE AND PYRIDOXINE IN ACUTE AND SUBACUTE
POISONING WITH DIPTEREX—AN ORGANOPHOSPHORUS INSECTICIDE**

N. V. Zhdanovich, Yu. F. Udalov (Ryazan)

Summary

The toxicity and the effect of dipterex on the tissue respiration depending upon the thiamine and pyridoxine allowances of the organism were studied in acute and subacute tests set up on albino rats of both sexes. The laboratory animals were poisoned by peroral administration of the preparation in doses of 1140, 570 mg/kg (acute poisoning) and in that of 57 mg/kg per day (subacute poisoning). Vitamins (thiamine hydrochloride and pyridoxalphosphate) and their antimetabolites (oxythiamine and 4-desoxypyridoxine) were injected intramuscularly. Thiamine and pyridoxine introduced into the organism at different time periods following acute dipterex poisoning in a dose of 1140 mg/kg (2LD₅₀) were found not to produce any marked protective and curative effect, but in all test series the life-span of the poisoned animals was lengthened. With dipterex poisoning in a dose of 570 mg/kg (LD₅₀) both the protective and "therapeutic" effects were fairly distinct. Partial thiamine and pyridoxine deficiency aggravated the clinical picture (oxythiamine) and raised the toxic effect of the preparation (4-desoxypyridoxine). Subacute dipterex poisoning was characterized by material changes in the activity of the succinate dehydrogenase and cytochromoxidase, especially with the poisoning superimposed

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upon experimentally-induced hypovitaminosis. The enhanced toxic effect of dipterex in these conditions was confirmed also by changed weight of the laboratory animals. Introduction of dipterex simultaneously with thiamine and pyridoxine helped normalizing the activity of respiratory enzymes, attenuate the severity of the clinical picture and avert weight loss in the animals.

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Acc. Nr.: AP0029432

Ref. Code: UR 0391

PRIMARY SOURCE: Gigiyena Truda i Professional'nyye Zabolevaniya,
1970, Nr 1, pp 37-40

PROPHYLACTIC AND THERAPEUTIC EFFECTIVENESS OF SOME VITAMINS
IN CHLOROPHOS POISONING

N. V. Zhdanovich, Yu. F. Udalov

Summary

Experimental investigations on albino rats were carried out to determine the toxicity parameters of the insecticide dipterex with varying vitamin allowances of the animal organism and also to decode the mode of thiamine and pyridoxine action in poisoning with this insecticide. As evidenced, when introduced 25 minutes before application of dipterex (LD₅₀ 570 mg/kg) and also at the appearance of intoxication symptoms, thiamine regularly increases the survival rate in the animals. Prophylactic administration of pyridoxine likewise lengthens the survival time. Antimetabolites (oxythiamine and 4-desoxypyridoxine) appreciably complicate the clinical picture of the dipterex poisoning, while 4-desoxypyridoxine, when given in a dose of 50 mg/kg, tends to markedly raise the toxicity of the preparation. Subacute poisoning produced by introduction of dipterex (1/10 LD₅₀) and also of dipterex applied against the background of the B₁ and B₆ vitamin deficiency, is attended by decreased respiratory enzymes activity. Thiamine exerts normalizing influence, raises

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the activity of succinate dehydrogenase in all organs, and of cytochromozidase in the brain, kidney and liver tissues. Pyridoxal-5-phosphate proves more effective than pyridoxine hydrochloride, increasing not only the cytochromoxidase activity, but in dipterex poisoning it also substantially increased that of succinate dehydrogenase in the brain, kidney and heart. *MA*

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19681029

USSR

UDC 621.791:061.3:621.9.06.002:658.563

ZHDANOVICH, V. A., and OLEYNIK, A. I., Engineers

"Conference on the Current State and Prospects for Development of Weldment Production in the Machine-Tool Industry"

Moscow, Svarochnoye Proizvodstvo, No 3, Mar 71, p 59

Abstract: The conference was held in October, 1970 in Kiev and was attended by 300 persons representing 108 enterprises and 55 institutes and other organizations.

The conference was opened by the Chief of the Department of the Main Administration for the Ministry of Machine Tool-Building and the Tool Industry, V. V. Fruktov.

A. A. Mazur (VISP) gave a full analysis on the state of welding production in tool making. P. V. Ignatenko (Institute of Electric Welding imeni YE. O. Paton) presented information on successes in the development of welding in the USSR in the last five years and the complex program for further development in 1971-75. It was noted that weldment output in the USSR has risen

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ZHDANOVICH, V. A., and OLEYNIK, A. I., Svarochnoye Proizvodstvo, No 3, Mar 71, p 59
40% in the last four years. YE. V. Favrilov (VISP) discussed the work of VISP in basic directions for planning complex means of mechanizing production processes, transportation, and technology.

M. G. Be l'for (Institute of Electric Welding imeni YE. O. Paton) reported on works of the Institute in the area of developing equipment for electric-arc welding. YA. YE. Kogut (VISP) discussed problems of creating mechanical welding equipment in the 1971-80 period. I. A. Markus (VISP) reported on the methodological problems of inter-plant analysis of work of welding shops and proposed scientifically based measurements of the technical and economical level of welding production. This analysis is being done with computers to accelerate its accomplishment.

V. I. Snezhko (Institute of Electric Welding imeni YE. O. Paton) discussed problems of welding production economies. ZH. I.
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USSR

ZHDANOVICH, V. A., and OL YNIK, A. I., Svarochnoye Proizvodstvo, No 3, Mar 71, p 59

Yushanin (Kolomensk Heavy Tool-Building Plant) related his experience in calculating and building welded base parts at the plant.

A. M. Suptel' (Institute of Electric Welding imeni YE. O. Paton) reported on the level of development of theoretical aspects in welding with powdered rod and the sphere of its application in the Soviet Union. In his report G. M. Man (Kiev "Krasnyy Ekskavator" Plant) discussed experience in the introduction of progressive methods of automatic and semi-automatic welding with grade PP-AN8 powdered rod. B. G. Ivanov (VNIITMASH) told the delegates about the welding, brazing, and cutting of iron at the Moscow "Stankolit" Plant and the Ryazan "Tsentrolit" Plant as well as about flame methods of surface and separating cutting in the trimming and cleaning of castings.

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USSR

UDC 681.888:621.762

KONOVALOV, Ye. G., Academician of the Academy of Sciences BSSR, ZHDANOVICH, V. M.,
Minsk Radio Engineering Institute

"Effect of Ultrasonic Oscillations on the Compaction of Metal Powders"

Minsk, Doklady Akademii nauk BSSR, No. 3, Mar 71, pp 219-221

Abstract: Experimental studies of the effect of ultrasonic oscillations on the relative density of a briquette are reported and the results of the experiments are reduced to a table. Processing of experimental data established that the relative density ρ_a under the effect of ultrasonic oscillations is proportional to the residual porosity $(1 - \theta_a)$, the amplitude of the oscillations A and inversely proportional to the pressing height h . The following expression is derived for the static load under pressing with the application of ultrasonic oscillations

$$P'_0 = P_h \left[1 - e^{\frac{A}{h}} (1 - \theta_a) \right]^m.$$

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KONVALOV, Ye. G., ZHDANOVICH, V. M., Doklady Akademii nauk BSSR, No. 3,
Mar 71, pp 219-221

A table is given showing the values of the relative density and the amplitude of oscillations for pressing pressures of 50, 500, and 1000 kg/cm².

UDC: 8.74

USSR

ZHDANOVICH, V. V.

"Processing Data of Vertical Seismic Profiling. The 'VSP-1' Program (Description, Instructions and Text of the Program)"

Tr. Zap.-Sib. n.-i. geologorazved. neft. in-t (Works of the West Siberian Scientific Research Institute of Geological Petroleum Prospecting), 1972, vyp. 55, pp 129-144 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V640 [author's abstract])

Translation: A program in Minsk-22 computer codes uses the method of least squares to estimate the depth to the reflecting surface and the velocity parameters of the medium from a system of longitudinal vertical hodographs for incident and reflected waves.

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1/2 011 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--SEPARATION AND PURIFICATION OF D,PANTOTHENIC ACID BY AN ION
EXCHANGE METHOD -U-
AUTHOR-(03)-ZHDANDVICH, YE.S., KUZLOVA, G.S., KIBALOVA, N.YU.
COUNTRY OF INFO--USSR Z
SOURCE--KHIM. FARM. ZH. 1970, 4(2), 27-9
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY
TOPIC TAGS--VITAMIN, CHEMICAL PURIFICATION, ION EXCHANGE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1993/0535 STEP NO--UR/0450/70/004/002/0027/0029
CIRC ACCESSION NO--AP0113426
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--0000170

2/2 011

CIRC ACCESSION NO--AP0113428

ABSTRACT/EXTRACT--(U) GP-U- ABSTRACT. SEPN. OF D PANTOTHENIC ACID (I) FROM A TECH. PRODUCT CONTG. I AS THE ET SUB2 NH SALT AND 15PERCENT BETA ALANINE (II) WAS EXAMD. TESTS WERE CARRIED OUT USING KU 23 CATION EXCHANGER (A COPOLYM. PRODUCT OF POLYSTYRENE WITH DIVINYLBENZENE) (H PRIME POSITIVE FORM). SORPTION ISOTHERMS OF ET SUB2 NH AND II WERE FIRST EXAMD. UNDER DYNAMIC AND STATIC CONDITIONS. MOREOVER, THE EFFECT OF GRAIN SIZE OF THE CATIONITE ON THE SORPTION OF II WAS INVESTIGATED, THE YIELD OF II AT 20, 40, AND 60DEGREES, AND THE SORPTION OF II AS THE FUNCTION OF ITS CONCN. OVER THE PH RANGE 1.0-6.4. THE SORPTION OF II INCREASED WITH INCREASING PH. THE SEPN. OF I WAS CARRIED OUT IN A 17 TIMES 290 MM COLUMN AT THE ELUTION RATE 5 ML-MIN. THE CONCN. OF I SALT AND II IN THE SOLN. WAS 0.3-0.4 AND 0.17 EQUIVS.-L., RESP. AT 40 AND 60DEGREES CONCD. ELUATES WERE OBTAINED. THERMAL STABILITY TESTS SHOWED THAT AT 37 AND 60DEGREES A 5PERCENT I SOLN. BEGAN TO DECOMP. AFTER 32 AND 2 HR, RESP. AT 20DEGREES THE OPTIMUM CONDITIONS WERE AS FOLLOWS: 10 G OF THE DRY CATIONITE, 95 ML 10PERCENT I SALT SOLN., AND VOL. OF THE ELUATE 170 ML (PH 4.5). THE I AND II CONTENT OF THE ELUATE WAS 0.0378 (88PERCENT YIELD BASED ON I SALT) AND 8.5 TIMES 10 PRIME NEGATIVES G-ML., RESP.

FACILITY: VSES. NAUCH. ISSLED. VITAMIN. INST., MOSCOW, USSR.

UNCLASSIFIED

1/2 . 019
UNCLASSIFIED
PROCESSING DATE--18SEP70
TITLE--BIOSYNTHESIS OF COENZYME A FROM PANTOTHENATE DERIVATIVES IN RATS
-U-
AUTHOR--(04)--ROZANOV, A.YA., SAVLUCHINSKAYA, L.G., ZHDANOVICH, YE.S.,
KOPELEVICH, V.M.
COUNTRY OF INFO--USSR
SOURCE--BIOKHIMIYA 1970, 35(1), 58-63
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ENZYME, BIOSYNTHESIS, CELL PHYSIOLOGY, MITOCHONDRION, VITAMIN
B COMPLEX, ADENOSINE TRIPHOSPHATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1984/0839

STEP NO--UR/0218/70/035/001/0056/0063

CIRC ACCESSION NO--AP0055541

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UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 019

CTRC ACCESSION NO--AP0055541
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. PANTOTHENATE ADMINISTERED PARENTERALLY TO RATS INCREASED THE CONTENT OF COA IN ORGANS ONLY WHEN ATP, CYSTEINE, THIAMINE, AND NICOTINATE WERE ADMINISTERED SIMULTANEOUSLY. THE DEGREE OF COA BIOSYNTHESIS CORRELATED WITH INCREASING DOSES OF ITS PRECURSORS AND OF THE VITAMINS AND WAS INCREASED BY HYDROCORTISONE. 4-PHOSPHO-D-PANTOTHENATE AND 5P. S-BENZOYL-D-PANTETHEINE AND 4-PHOSPHO-S-BENZOYL-D-PANTETHEINE WERE MORE EFFECTIVE THAN PANTOTHENATE IN INDUCING COA SYNTHESIS, POSSIBLY DUE TO THEIR CLOSER STRUCTURAL SIMILARITY TO THE COENZYME AND THEIR MORE RAPID PERMEABILITY THROUGH THE BLOOD TISSUE BARRIERS AND THE CELLULAR AND MITOCHONDRIAL MEMBRANES.

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PROCESSING DATE--23OCT70
METALS AND COMPOUNDS IN

1/3 054
TITLE--ON THE POSSIBILITY OF PRODUCING REFRACTORY
A LOW TEMPERATURE PLASMA -U-
AUTHOR--(02)-ZHDANOVSKIY, A.A., LAKOMSKIY, V.I.

COUNTRY OF INFO--USSR

SOURCE--KIEV, POROSHKOVAYA METALLURGIYA, NO 3, MAR 70, PP 16-22

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR, PHYSICS

TOPIC TAGS--REFRACTORY METAL, BORON NITRIDE, NIOBIUM COMPOUND, MOLYBDENUM
OXIDE, PLASMA ARC, LOW TEMPERATURE PLASMA, ARGON, PLASMATRON, METAL
REDUCTION, CHEMICAL REACTOR, TUNGSTEN, METAL POWDER, TITANIUM NITRIDE,
REFRACTORY COMPOUND, WELDING RESEARCH FACILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/0407

STEP NO--UR/0226/70/000/003/0016/0022

CIRC ACCESSION NO--AP0119350

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/3 054

CIRC ACCESSION NO--AP0119350

ABSTRACT/EXTRACT--(U) G2-0-

ABSTRACT. THE POSSIBILITY OF PRODUCING REFRACTORY METALS AND COMPOUNDS IN A LOW TEMPERATURE PLASMA WAS EXPERIMENTALLY INVESTIGATED. A SCHEMATIC DIAGRAM OF THE EXPERIMENTAL SETUP IS PRESENTED AND DESCRIBED IN DETAIL. IT CONSISTS OF A PLASMATRON, A REACTOR, A TEMPERING CHAMBER, CYCLONES, A POWDER FEEDER, A DC SOURCE, CONTROL AND WATER COOLING SYSTEMS, A GAS FEEDER, AND SCRUBBING SYSTEMS. A TUNGSTEN ROD ANODE, A COPPER AUXILIARY ANODE, AND AN ANODE NOZZLE ARE THE BASIC COMPONENTS OF THE PLASMATRON. THE RESULTS ON PLASMA REDUCTION OF THE NIOBIUM AND MOLYBDENUM OXIDES, USING ARGON AS A PLASMA GENERATING AND DRIVER GAS, ARE PRESENTED IN TABULAR FORM AND ANALYZED. IT IS SHOWN THAT THE DEGREE OF REDUCTION OF THE NIOBIUM AND MOLYBDENUM OXIDES CAN BE SUBSTANTIALLY INCREASED BY A SUFFICIENT INCREASE IN THE TEMPERING SPEED WHICH WOULD PREVENT THE OCCURRENCE OF BACK REACTIONS, AND BY PASSIVATING THE OBTAINED POWDERS WITH CARBON MONOXIDE. RESULTS ARE ALSO PRESENTED ON THE SYNTHESIS OF BORON AND TITANIUM NITRIDES USING NITROGEN AS A PLASMA GENERATING AND DRIVER GAS. THE PRODUCTS OF PLASMA SYNTHESIS OF NITRIDES WERE STUDIED BY COMPARING THE X RAY PICTURES OF THE FINAL PRODUCTS WITH STANDARD SAMPLES. THE NITROGEN CONTENT WAS DETERMINED BY THE KJELDAHL METHOD. X RAY PHOTOGRAPHS OF A SYNTHESIZED BORON NITRIDE, A STANDARD NITRIDE SAMPLE, AND AN ORIGINAL AMORPHOUS BORON ARE PRESENTED. IT IS STATED THAT THE PROCESS OF PRODUCING BORON AND TITANIUM NITRIDES, USING THE NITROGEN PLASMA AS A REACTION MEDIUM, IS BOTH PRACTICAL AND FEASIBLE.

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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119350

ABSTRACT/EXTRACT--IN ADDITION TO THE COMPOUNDS MENTIONED ANOTHER SERIES OF NITRIDES AND CARBIDES WAS SYNTHESISED IN A LOW TEMPERATURE PLASMA AT THE INSTITUTE OF ELECTRICAL WELDING IMENI YE. D. PATON. ORIGINAL ARTICLE HAS 3 FIGURES AND 2 TABLES.

UNCLASSIFIED

USSR

UDC 615.779.9

ASHMARIN, I. P., ZHDAN-EUSHKINA, S. M., KOKRYAKOV, V. I., SAMEDOV, A., Sh.,
and ANTONOVA, S. N., Leningrad State University

"Antibacterial and Antiviral Functions of Basic Cellular Proteins and Pros-
pects for Their Practical Use"

Leningrad, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 4, 1972,
pp 502-508

Abstract: After noting the functions of basic proteins in chromatin, ribosomes, lysosomes, etc., the authors review the literature and their own research on the role of these proteins in the mechanism of protection against infection and on their antibiotic activity in vitro and in vivo. Results of studies on the tolerance of animals for the basic proteins following a single or prolonged parenteral administration of various histone fractions are summarized. The use of histones combined with antibacterial and antiviral agents with limited ability to penetrate certain cellular and tissue membranes is regarded as a promising clinical approach. Positive results have been obtained in treating tuberculosis in guinea pigs and mice with isoniazid and histones. The effective doses of isoniazid could be reduced five-fold when combined with certain histone fractions. Histone fractions were also efficacious in the treatment of herpetic keratitis.

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UDC 621.397-2

USSR

SHMAKOV, P. V., ZHEBEL', R. G., KOPYLOV, P.M., MEDVEDEV, E. V., TACHKOV, A. N.

"Reproduction of Three-Dimensional by the Use of Coherent Light"

Moscow, Elektrosvyaz' (Electrical Communications), No 2, Feb 70, pp 5-10

Abstract: The authors conclude that: 1) In broadcast holographic television systems a decrease of the information transmitted is possible because of the elimination of vertical parallax and preservation of a limited number of fore-shortenings in the horizontal direction; 2) The method of transmission of a series of images focused in normal light and the forming of them at the receiving end of the holograph, making it possible to perceive depth and to examine the image of three-dimensional objects, is undoubtedly of great interest and merits careful and thorough investigation; and 3) Progress in analysis, transmission, and reproduction of complete holographic information is obviously possible only by using scanning and modulated laser beams. The image of a cannon and a bell photographed with a magnified holograph is shown as it looked before and after transmission on the Moscow--Minsk facsimile channel. The arrangement of the system is shown in several drawings. 5 fig. 21 ref. Submitted 19 May 69.

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1/2 040 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--RECONSTRUCTION OF THREE DIMENSIONAL IMAGES USING COHERENT LIGHT -U-
AUTHOR--(05)-SHMAKOV, P.V., ZHEBEL, B.G., KOPYLOV, P.M., MEDVEDEV, E.V.,
TACHKOV, A.N.
COUNTRY OF INFO--USSR
SOURCE--ELEKTROSVIAZ', VOL. 24, FEB. 1970, P. 5-10
DATE PUBLISHED-----70

SUBJECT AREAS--NAVIGATION

TOPIC TAGS--HOLOGRAM, COHERENT LIGHT, TV NETWORK, BANDWIDTH COMPRESSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1804

STEP NO--UR/0106/70/024/000/0005/0010

CIRC ACCESSION NO--AP0118771

UNCLASSIFIED

2/2 040

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0118771

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF DIFFERENT METHODS FOR REDUCING THE VOLUME OF HOLOGRAPHIC INFORMATION TO FACILITATE TRANSMISSION OVER STANDARD TELEVISION CHANNELS. FOR AN IDENTICAL RATE OF TRANSMISSION OF A SINGLE FRAME, THE BANDWIDTH OF THE HOLOGRAPHIC SYSTEM SHOULD BE FOUR TO SEVEN TIMES WIDER THAN A STANDARD TELEVISION CHANNEL. IT IS POSSIBLE TO REDUCE THE VOLUME OF HOLOGRAPHIC INFORMATION BY (1) RECORDING HOLOGRAMS WITH LOW SPATIAL FREQUENCIES, (2) REDUCING THE BANDWIDTH OF THE SPATIAL FREQUENCIES WITH THE AID OF A SCATTERING MEDIUM PLACED IN THE SYSTEM, AND (3) LIMITING THE DIMENSIONS OF THE ANALYZED HOLOGRAPHIC SEGMENT. IT IS SHOWN THAT THE BEST WAY OF REDUCING THE INFORMATION IS BY REMOVING VERTICAL PARALLAX AND BY CONSERVING A LIMITED NUMBER OF ASPECTS IN THE HORIZONTAL DIRECTION. A METHOD IS DESCRIBED FOR TRANSMITTING A SEQUENCE OF IMAGES FOCUSED IN ORDINARY LIGHT, WITH SUBSEQUENT FORMATION OF A HOLOGRAM AT THE RECEIVING END.

UNCLASSIFIED

USSR

UDC 612.744.015.1.014.45

LEBEDEVA, A. F. and ZHEBROVSKAYA, N. YE., Institute of Physical Culture.
Sanitary Hygiene Medical Institute, Leningrad

"The Effect of Rest on Changes in the Localization of Cholinesterase in the
Neuromuscular Synapses of Animals After Exposure to Vibration (Experimental
Data)"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 11, 1972, pp 51-53

Abstract: The effect of the duration of rest on repair after injury due to prolonged vibration was studied by subjecting three groups of male white rats to 5 hours of vibration (at 50 Herz with 0.8 mm amplitude) each day, Sundays and holidays excepted, for 3 months, and then sacrificing the groups at 10, 30 and 80 days after the end of the insult. Sixteen rats were used as controls. Cholinesterase activity in striated spinal and distal extremity muscles were studied by histochemical methods. The changes noted were more marked in the distal muscles. The group given 10 days of rest showed little recovery as compared with previous results. After 30 days of rest the pathological changes were less marked, with some motor end plates appearing normal. Much better recovery was noted after 80 days, but some abnormal end plates were still

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LEBEDEVA, A. F. and ZHEBROVSKAYA, N. YE., Gigiyena Truda i Professional'nyye Zabolevaniya, No 11, 1972, pp 51-53

present. Thus it was concluded that even prolonged rest (80 days) does not lead to complete recovery after 3 months of exposure.

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1/2 025
TITLE--FILM FORMING PROPERTIES OF COPOLYMERS OF EPOXY ETHERS WITH ACRYLIC
AND METHACRYLIC ACID ESTERS -U-
AUTHOR--(03)-ZHEBROVSKIY, V.V., LIVSHITS, KH.M., VASILYEV, A.V.
COUNTRY OF INFO--USSR
SOURCE--LAKOKRASOCH. MATER. IKH PRIMEN. 1970, (2), 22-3
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--PLASTIC FILM, COPOLYMER, EPOXY COMPOUND, ETHER, FATTY ACID,
EPOXY RESIN, ACRYLATE, TITANIUM DIOXIDE, PIGMENT, PLASTIC MECHANICAL
PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO-----FD70/605019/809 STEP NO--UR/0303/70/000/002/0022/0023

ACCESSION NO--AP0140906

UNCLASSIFIED

2/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0140906
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ENAMELS WERE PREPD. BY COPOLYMN.
OF AN EPOXY ETHER (BASED ON FATTY ACIDS OF DEHYDRATED CASTOR OIL AND
EPOXY RESIN E-44) WITH BU ACRYLATE AND BU METHACRYLATE IN THE PRESENCE
OF CUMENE HYDROPEROXIDE. THE ENAMELS (CONTG. TIO SUB2 AS A PIGMENT)
EXHIBITED SUPERIOR PHYS. MECH. PROPERTIES AND LIGHTFASTNESS.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--COHERENT BREMSSTRAHLUNG IN A DIAMOND SINGLE CRYSTAL -U-
AUTHOR--(051)GORBENKO, V.G., ZHEBROVSKIY, YU.V., KOLESNIKOV, L.YA.,
MIROSHNICHENKO, I.I., ROMASKO, L.M.
COUNTRY OF INFO--USSR
SOURCE--YAD. FIZ. 1970, 11(5), 1044-8
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--DIAMOND, SINGLE CRYSTAL, PHOTON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1232 STEP NO--UR/0367/70/011/005/1044/1048
CIRC ACCESSION NO--AP0136643
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 015

CIRC ACCESSION NO--AP0136643

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. QUASI MONOCHROMATIC POLARIZED PHOTON BEAM WAS OBTAINED FROM A DIAMOND SINGLE CRYSTAL AT THE KHARKOV 2,GEV EPSILON LINEAR ACCELERATOR. THE INTEGRAL INTENSITY OF PHOTONS MEASURED WITH QUANTAMETERS WAS 5 TIMES 10 PRIME9 EQUIV. GAMMA QUANTA IN 1 SEC WITH THE MEAN CURRENT OF EPSILON FLUX 0.2 MUA. THE COHERENT EFFECT WAS INVESTIGATED BY MEASURING INTEGRAL PHOTON AND SECONDARY ELECTRON INTENSITIES AS FUNCTIONS OF THE DIAMOND ORIENTATION ANGLES RELATIVE TO THE INCIDENT EPSILON MOMENTUM. INTENSITY AND POLARIZATION SPECTRA OF THE PHOTON BEAM ARE GIVEN. THE PHOTON POLARIZATION WAS ESTD. FROM THE RESULTS OF THE (GAMMA,RHO) REACTION STUDIED IN THE 1ST PI N RESONANCE REGION.

FACILITY: FIZ.-TEKH. INST., KHARKOV, USSR.

UNCLASSIFIED

USSR

UDC 681.3.001:51

ZHEGALOV, V. I., ROMANOV, V. F.

"Improved Logic for Connection Between Analog and Digital Computers in an Analog-Digital Computer Complex"

Sb. nauch. tr. Vladimir. politekhn. in-t (Collected Scientific Works. Vladimir Polytechnical Institute), 1971, vyp. 13, pp 136-139 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 9, Sep 72, Abstract No 9B446)

Translation: The authors consider an improved logic for connection between computers in an analog-digital complex with provision for the computing time in the digital unit to exceed the quantization step while simultaneously simplifying control of the complex and improving its efficiency. One illustration. V. Kh.

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USSR

UDC 539.4

GORDEYEVA, T. A., ZHEGINA, I. P., VOLODINA, T. A., Moscow

"Application of Fractography to Study the Rupture Kinetics of Light Alloys"

Kiev, Problemy Prochnosti, No 3, March 1971, pp 25-29

Abstract: In this paper the fractographic method was used to study retarded rupture of alloys based on Ti and Al and to establish the relation of the structure of these alloys to the rupture kinetics in the case of single and repeated loading. The results indicate the complex, as a rule, nonmonotonic variation of the rupture rate and nature in the process of crack development even when the nature of the external load is kept practically constant. It is demonstrated that in the fatigue fracture zone corresponding to transition from the stage of slow crack development to sharply accelerated crack development, along with the relief characteristic of rupture from the effect of repeated loads, microsections appear regularly for which the mechanism of single rupture is characteristic.

The role of individual structural components in the various stages of rupture turns out to be quite different. For example, in aluminum alloys the primary phase particles essentially have no effect on the rupture process

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GORDEYEVA, T. A., et al., Problemy Prochnosti, No 3, March 1971, pp 25-29.
during the period of slow development of fatigue cracks. The widths of the microfatigue strips are studied and compared for VAD-23 and AK4-1 alloys. This index is taken as the characteristic of the microstructure of fatigue fracture. The expediency of using optical and electron photography to study the behavior of materials during crack development and the relation of rupture characteristics to load conditions is demonstrated.

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Immunology

UDC 616.932+616.932-008.97]-078:616.15-097.5

USSR

STOGOVA, A. G., SEMIOTROCHEV, V. L., and ZHEGLOVA, D. V., Central Asian
Scientific Research Antiplague Institute, ~~Alma-Ata~~ ^{Alma-Ata}

"Detection of Agglutinins and Bacteriolysins in the Blood Serum of El Tor
Cholera Patients and Vibrio Carriers"

Moscow, Laboratornoye Delo, No 10, 1970, pp 594-595

Abstract: The agglutination and bacteriolysis tests as modified by Sack and coworkers were used to investigate the sera of two El Tor cholera patients, four vibrio carriers, 62 persons in contact with them, and 40 persons who lived in a cholera-free area. Agglutinins were present in titers ranging from 1:20 to 1:160 in the sera of patients and carriers 3 to 5 days after bacteriological confirmation of the disease. A second examination of their sera 10 days later revealed an increased agglutinin titer in those who had reacted positively before, as well as the appearance of agglutinins after the first negative result. Detection of bacteriolysins in a titer of 1:10,000 during the initial examination in all of the persons from whom the agent was isolated, together with the complete correspondence and increase in titers during the second examination of sera, indicates that

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STOGOVA, A. G., et al, Laboratornoye Delo, No 10, 1970, pp 594-595

these antibodies appear early. The results of examining the 102 persons who had come into contact with the patients or who lived in a cholera-free area were negative in all cases but one. It is concluded that the agglutination and bacteriolysis reactions are sufficiently specific and sensitive to be used in diagnosing cholera.

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ZHEGULEV, V.S.

JPRS 59231
8 June 1973

UDC 523.43

PRELIMINARY RESULTS OF MEASURING THE H_2O CONTENT IN THE ATMOSPHERE

OF MARS ON THE MARS-3 AUTOMATIC SPACE STATION

[Article by V.I. Moroz, A.Z. Nedashin, A.B. Gilyang, T.A. Korotkiy, V.S. Zhegulev, Moscow, Polytekhnicheskii Vuz SSSR, Russian, Vol 205, No 4, 1973, pp 797-800]

The IV-2 instrument designed to measure the water vapor content in the atmosphere of the planet was installed on the Mars-2 and Mars-3 automatic space stations (artificial Mars satellites). Such measurements have the following important advantages by comparison with ground observations [1-7]: 1) the measurements are taken with close spacing (1000-1500 km in the pericenter of the orbit) and the spatial resolution is about 5-10 km, two orders better than from the Earth; 2) all the difficulties connected with telluric absorption are completely removed, and smaller amounts of H_2O can be measured than from the Earth.

The IV-2 instrument (Fig. 1) measures the H_2O content in the atmosphere of Mars by the magnitude of the absorption at the center of the 1.38 μ band. The H_2O band of $\lambda = 1.38 \mu$ is formed in the spectrum of the reflected solar radiation, and its equivalent width does not in practice depend on the vertical temperature distribution in the atmosphere of the planet. This is the theoretical difference of the IV-2 from the IRIS device used for the same purpose on the American Mariner-9 station [8]. The IRIS records the rotational band of H_2O in the 25-50 μ region; the intensity of which depends so strongly on the vertical temperature distribution that the band can be observed also in absorption and in emission [9].

Since the expected equivalent width of even the strongest lines at the center of the 1.38 μ band in the spectrum of Mars is small, the modulation method is used to measure it. The interference-polarization filter consisting of a plate of Iceland spar (a double refracting crystal) and two polaroids (4,6) and the interference filter 3 separate three lines in the center of the band: 13,768, 13,807 and 13,827 \AA . On rotation of the second polaroid 6 the transmission peaks of the interference-polarization filter

* [Article submitted by Academician G.I. Petrov on 28 June 1973.]

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